INTERMOUNTAIN STATION
Central Reference File
No. 1 0.73
U.S.
2-271
U.S.

FOREST RESEARCH NOTES

U.S.DEPARTMENT OF AGRICULTURE
FOREST SERVICE
CALIFORNIA FOREST AND RANGE
EXPERIMENT STATION *

STEPHEN N. WYCKOFF, Director

No. 88 May 15, 1953

K-SCREEN SEED SPOTS[1/]

D. F. Roy and G. H. Schubert

A new type of protective screen for seed spots has attracted the attention of foresters on the Pacific coast. This screen[2/] is cylindrical in form, 4 inches long, about 1 inch in diameter, and is formed from 8-mesh hardware cloth. Foresters have named this protective device a "K-screen".

K-screens appeal to the forester because they are relatively cheap, can be pre-loaded with seed and germinating medium before being transported to the field, can be placed quickly, and may not need to be removed from the seed spot. To protect the seed from rodents, the tops of the screens are pinched partially closed. It is anticipated that established seedlings will grow through the pinched tops without deformation, and that the screens will eventually decompose or be pushed open by the growing tree.

Field tested at the Blacks Mountain Experimental Forest and the Stanislaus Experimental Forest in 1950 and 1951, and at the Slate Creek Unit, Trinity National Forest in 1952, K-screens have not produced all the hoped-for results. If K-screens are partially closed at the top, they generally protect seed from rodents, but the screens have certain drawbacks.

Seedlings within K-screens are sometimes unable to emerge from the soil, particularly heavy textured soils, which, with the mechanical reinforcement of the screen, form a layer impenetrable to seedlings. Under certain field conditions K-screens are subject to frost heaving, and sometimes the cores of soil within the K-screens dry too quickly.

1/ Summary of a detailed manuscript which can be obtained by writing to the Director, California Forest and Range Experiment Station, P. O. Box 245, Berkeley 1, California.

2/ Designed by Mr. Joseph Keyes, formerly Biologist, Control Methods Research Laboratory, U. S. Fish and Wildlife Service, now retired.

INT - FILE COPY

* MAINTAINED AT BERKELEY, CALIFORNIA, IN COOPERATION WITH THE UNIVERSITY OF CALIFORNIA.
Agriculture--Berkeley

When livestock or deer are abundant, K-screens are susceptible to damage by trampling. Larger rodents (probably ground squirrels, Citellus beecheyi fisheri Merriam) sometimes knock K-screens out of the soil. Nor is the microclimate found under K-screens as favorable as under cone- or dome-shaped screens. These results show that K-screens or the way they are used must be improved before they can be recommended.

Two modified K-screens are currently being tested under field conditions. The first modification is lengthening the cylinder two inches. The second change lengthens the cylinder one inch and attaches the screen to an 8-inch stake[3/] which is driven into the ground. Added length, plus the stake in the second case, should anchor the screens in the ground more securely and may reduce losses from frost heaving and animal disturbance.

Finally, there is a possibility of finding a material for filling the screens which would provide better germinating conditions than soil. If such a material is found the major deficiencies of the K-screen would be removed.

3/ Designed and being tested by Norman E. Dircksen, timber management staff member, Stanislaus National Forest.